

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A digital signal recorder for recording a digital signal on a removable recording medium unit including a recording medium, comprising:
 - a decrypting circuit which receives a transmitted digital signal encrypted for protecting said transmitted digital signal using a first encryption method ~~transmission~~ and decrypts the transmitted digital signal into an original data;
 - first key information generation unit to generate at least one item of first key information which is recorder-specific key information;
 - second key information generation unit to generate at least one item of second key information;
 - key generation unit which receives both of said first and second key information generated by said first key information generation unit and said second key information generation unit, and performs a prescribed arithmetic operation thereon to generate a key;
 - an encrypting circuit which receives said key and said original data and encrypts said original data with said key using a second encryption method different from said first encryption method, and outputs the resulting encrypted digital signal, in a case where said digital signal needs copy protection; and
 - a recording circuit which records, onto said removable recording medium unit, at least one of said at least one item of second key information generated by said second key information generation unit, together with said encrypted digital signal in

a case where said digital signal needs copy protection, and records said digital signal without encryption in a case where said digital signal needs no copy protection,

wherein said first key information as said recorder-specific key information, is not recorded on any part of said removable recording medium unit.

2. (Previously Presented) The digital signal recorder according to claim 1, wherein said second key information generation unit generates said second key information by using a random number generator, and said digital signal has a packet format of a prescribed length.

3. (Previously Presented) The digital signal recorder according to claim 1, wherein:

said second key information generation unit generates said second key information by using a random number generator;

said second key information generation unit has a function for updating said at least one item of said second key information at a prescribed time interval; and

said recording circuit has a function for recording information capable of identifying timing when said second key information generation unit updates said second key information.

4. (Previously Presented) The digital signal recorder according to claim 3, wherein:

said digital signal has a packet format of a prescribed length; and

said recording circuit has a function for adding identifying information capable of identifying timing where said second key information generation unit updates said second key information, and where said identifying information is added to packets of said digital signal and recorded on said removable recording medium unit.

5. (Previously Presented) The digital signal recorder according to claim 1, wherein:

said second key information generation unit generates said second key information by using a random number generator;

said encryption circuit has a function capable of selecting between a first function for encrypting and outputting said digital signal, and a second function for outputting said digital signal as is without encryption; and

said recording circuit has a function for recording, in a prescribed area on said removable recording medium unit, encryption flag information indicating whether or not said digital signal is encrypted, and, when not encrypted, not recording said second key information.

6. (Previously Presented) The digital signal recorder according to claim 5, wherein:

said digital signal has a packet format of a prescribed length; and

said recording circuit has a function for adding encryption flag information indicating whether or not said digital signal is encrypted, to packets of said digital signal, and a function for recording on said removable recording medium unit.

7. (Currently Amended) A digital signal recorder in which a digital signal of a packet format of a prescribed length is input and divided into other prescribed lengths; a synchronization signal, recording information signal, auxiliary information signal, and first error correction code are added thereto to define a block format; one track is formed by a prescribed number of blocks thus made; a second error correction code is added in units of n tracks (where n is an integer 1 or greater); said second error correction code is also divided and said first error correction code is added thereto to constitute a block format; and said tracks are recorded on a removable recording medium unit including a recording medium, comprising:

a decrypting circuit which receives a transmitted digital signal encrypted for protecting said transmitted digital signal using a first encryption method. ~~transmission~~ and decrypts the transmitted digital signal into an original data;

first key information generation unit to generate at least one item of first key information which is recorder-specific key information;

second key information generation unit to generate at least one item of second key information;

key generation unit to receive both of said first and second key information generated by said first key information generation unit and said second key information generation unit, and to perform a prescribed arithmetic operation to generate a key;

an encryption circuit which receives said key and said original data, encrypts said original data with said key using a second encryption method different from said first encryption method, and outputs the resulting encrypted digital signal, in a case where said digital signal needs copy protection; and

a recording circuit which records, onto said removable recording medium unit, said at least one item of second key information generated by said second key information generation unit, together with said encrypted digital signal in a case where said digital signal needs copy protection, and records said digital signal without encryption in a case where said digital signal needs no copy protection, wherein said first key information as said recorder-specific key information, is not recorded on any part of said removable recording medium unit.

8. (Previously Presented) The digital signal recorder according to claim 7, wherein said recording circuit has a function for holding said second key information in an auxiliary information signal area in said blocks and recording same on said removable recording medium unit.

9. (Previously Presented) The digital signal recorder according to claim 7, wherein said second key information generation unit has a function for updating said at least one item of said second key information at a prescribed time interval; and said recording circuit has a function for recording information capable of identifying timing where said second key information generation unit updates said key information, in a prescribed area on said removable recording medium unit.

10. (Previously Presented) The digital signal recorder according to claim 9, wherein said recording circuit has a function for holding said information capable of identifying said timing in a recording information signal area in said blocks and recording same on said removable recording medium unit.

11. (Previously Presented) The digital signal recorder according to claim 9, wherein said recording circuit has a function for holding said information capable of identifying said timing in an auxiliary information signal area in said blocks and recording same on said removable recording medium unit.

12. (Previously Presented) The digital signal recorder according to claim 9, wherein said recording circuit has a function for adding said information capable of identifying said timing to packets in said digital signal and recording same on said removable recording medium unit.

13. (Previously Presented) The digital signal recorder according to claim 9, wherein said second key information generation unit has a function for updating said key information at points of separation between units of n tracks wherewith said second error correction code was added.

14. (Previously Presented) The digital signal recorder according to claim 7, wherein:

said encryption circuit has a function for encrypting and outputting said digital signal, and a function for outputting same as is, without encryption; and

said recording circuit has a function for recording encryption flag information indicating whether or not said digital signal is encrypted, in a prescribed area on said removable recording medium unit, and, when not encrypted, not recording said second key information.

15. (Previously Presented) The digital signal recorder according to claim 14, wherein said recording circuit has a function for holding said encryption flag information in recording information signal area of said blocks and recording same on said removable recording medium unit.

16. (Previously Presented) The digital signal recorder according to claim 14, wherein said recording circuit has a function for holding said encryption flag information in auxiliary information signal area of said blocks and recording same on said removable recording medium unit.

17. (Previously Presented) The digital signal recorder according to claim 14, wherein said recording circuit has a function for adding said encryption flag information to packets in said digital signal.

18. (Previously Presented) The digital signal recorder according to claim 14, wherein said encryption circuit has a function for switching to determine whether or not to encrypt said digital signal, at points of separation between units of n tracks wherewith said second error correction code was added.

19. - 46. (Canceled)

47. (Previously Presented) The digital signal recorder according to claim 1, wherein said first key information is pre-stored in said recorder at a time when said recorder is manufactured.

48. (Previously Presented) The digital signal recorder according to claim 7, wherein said first key information is pre-stored in said recorder at a time when said recorder is manufactured.

49. (Currently Amended) A digital signal recorder for recording a digital signal on a removable recording medium unit including a recording medium, comprising:

a decrypting circuit which receives an encrypted digital signal ~~encrypted for transmission and decrypts the encrypted digital signal~~ into an original data;

first key information generation unit using recorder-specific characteristic information of the digital signal recorder uniquely identifying the digital signal recorder, to generate at least one item of first key information; ~~which is recorder-specific key information;~~

second key information generation unit to generate at least one item of second key information;

key generation unit which receives both of said first and second key information generated by said first key information generation unit and said second key information generation unit, and performs a prescribed arithmetic operation thereon to generate a key;

an encrypting circuit which receives said key and said original data and encrypts said original data with said key, and outputs the resulting encrypted digital signal, in a case where said digital signal needs copy protection; and

a recording circuit which records, onto said removable recording medium unit, at least one of said at least one item of second key information generated by said second key information generation unit, together with said encrypted digital signal in

a case where said digital signal needs copy protection, and records said digital signal without encryption in a case where said digital signal needs no copy protection,

wherein a copy of said first key information ~~as said recorder-specific key information~~ is not carried together with any part of said removable recording medium unit.

50. (Previously Presented) The digital signal recorder according to claim 1, wherein said first key information is recorder-specific key information, in that said first key information is derived from an attribute of said digital signal recorder.

51. (Previously Presented) The digital signal recorder according to claim 1, wherein said first key information is recorder-specific key information, in that said first key information is derived from an attribute of said digital signal recorder, and is unrelated to any attribute of any part of said removable recording medium unit.

52. (Previously Presented) The digital signal recorder according to claim 7, wherein said first key information is recorder-specific key information, in that said first key information is derived from an attribute of said digital signal recorder.

53. (Previously Presented) The digital signal recorder according to claim 7, wherein said first key information is recorder-specific key information, in that said first key information is derived from an attribute of said digital signal recorder, and is unrelated to any attribute of any part of said removable recording medium unit.

54. (Previously Presented) The digital signal recorder according to claim 49, wherein said first key information is recorder-specific key information, in that said first key information is derived from an attribute of said digital signal recorder.

55. (Previously Presented) The digital signal recorder according to claim 49, wherein said first key information is recorder-specific key information, in that said first key information is derived from an attribute of said digital signal recorder, and is unrelated to any attribute of any part of said removable recording medium unit.

56. (New) The digital signal recorder according to claim 49, wherein said encrypted digital signal is encrypted using a first encryption method, and wherein said encrypting circuit encrypts said original data with said key using a second encryption method different from said first encryption method.